

The Psychometric Properties of Menstrual Attitude Questionnaire: A Validity Study in Greek Women

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ABSTRACT: Menstruation comprises an important procedure in women's life. Cross- cultural studies are taking place, using instruments like Menstrual Attitude Questionnaire (MAQ), which was constructed for American people and has been validated for different populations, in order to investigate menstrual aspects among women. The aim of this study is to investigate the psychometric properties of the Greek version of MAQ. The initial questionnaire was translated using forward- backward translation, and it was distributed to a sample of Greek women. Confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) were conducted. CFA did not confirm the American factor structure along, while EFA identified a new model of five factors that reflected almost exactly the original structure and indicated very good levels of internal consistency. Greek version of MAQ was developed. Attitudes toward menstruation were found to differ among countries, confirming past studies. Greek women were found to be positive oriented to menstruation. Greek version of MAQ is a reliable questionnaire with satisfactory psychometric properties for a Greek population. This study is the first that copes with menstrual attitudes in our country and can lead to further research improving women's life.

KEYWORDS: menstruation, psychometric properties, Menstrual Attitude Questionnaire, Greece

I. INTRODUCTION

Menstruation is a universal experience and a phenomenon related to multiple psychosocial events, but it is yet inadequately studied, and thus, women's experiences remain poorly understood. The menstrual cycle indicates women's general health and since it is not one single event, but a lifelong process, it is important to investigate menstruation across time [1].

There is a growing interest that concerns attitudes of women as well as attitudes of the society towards menstruation. Several factors related to family, environment and culture influence the opinion of women about this unique procedure that takes place inside their bodies. Many researchers from different countries within the scientific

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community have worked on intercultural studies in order to compare the way that women from various cultures and civilizations experience and perceive menstruation.

In the contemporary world and particularly in Greece, it is easy to observe that most women have rid themselves of taboos about menstruation. Nonetheless, until today, there is not any published study that describes the attitude of modern Greek females towards menstruation. Therefore, a need for a questionnaire has risen, which would give answers and information on this field. For this purpose, the Menstrual Attitude Questionnaire (MAQ) was constructed and validated, in 1980, by Brooks- Gunn and Ruble [2]. The aim of this study is to investigate the psychometric properties of the Greek version of MAQ in a sample of native women, in order to comprehend the complicated phenomenon of menstruation, as a cross-cultural event that affects the life of women from various nations and cultures.

II. RELATED WORK

MAQ

Brooks- Gunn and Ruble developed in 1980 in New York an instrument, so as to examine the relationship of attitudes about menstruation, through self reports of menstrual related symptoms, with other sides of behavior. The original MAQ was designed for a population of American undergraduate students; whose answers were factor analyzed and produced a questionnaire with adequate integral agreement and reliability.

MAQ has various and significant uses in the conduction of studies, as it can be used to locate differences among subsamples within a nation and between nations [3]. Furthermore, it allows for an individualized approach to the understanding of situations related to menstruation, and to conceptualization of the above situations as multidimensional [2].

Therefore, a lot of researchers used MAQ, with the purpose of comparing the psychometric properties among different cultures and draw inferences about the beliefs of women.

Evaluation of psychometric properties of MAQ in different populations

A few years later, in 1991, a study was conducted in India, by Chatuverdi and Chandra [4], who adapted and modified the MAQ, so as to become an instrument easily understood by Indian women. In 2002, Bramwell et al. [3] conducted a research with the aim to study the use of MAQ in two groups of participants, one from Britain and another from India and to compare their attitudes towards menstruation. Although they doubted the original structure, the authors stressed the existence of cross cultural differences in attitudes because of the dimensionality and strength of cultural beliefs [3]. Some years later, in 2009, researchers from Turkey, tried to apply MAQ for the first time to the Turkish population [5]. Compared to British and Indian people, Turkish attitudes were found to fit better the American model.

III. PRESENTATION OF THE MAIN CONTRIBUTION OF THE PAPER/SCOPE OF RESEARCH

Menstrual attitudes in Greece

In Greece, no study exhibiting the beliefs of women about menstruation has been conducted. The Greek society is a compound of emancipated and conservative women, mostly due to a combination of western cultural characteristics and the strict religious traditions and superstitions inherited from the eastern influences of previous eras. It would be of great interest to estimate women's attitudes towards menstruation, so, there is an imperative need to design an instrument eligible to determine these features in the Greek society.

IV. PROPOSED METHODOLOGY AND DISCUSSION

The questionnaire

MAQ was chosen as a widely used instrument in the research of women's attitude towards menstrual bleeding. With MAQ, the results that are gathered can easily be compared to those of similar researches. In addition, MAQ is a validated questionnaire considered to be reliable to assess the opinions about menstruation. MAQ consists of 33 positive and negative items, scored in a 7 point Likert scale. Higher scores indicate a higher level of agreement with the

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question in place, where the range of answers spreads from 1 (strongly disagree) to 7 (strongly agree). Testing the reliability of an instrument in a different language than that of the original offers the advantage of avoiding the lengthy process of the first stages of creating a new questionnaire. The adaptation of a scale in different languages makes it easier to carry out future cross-cultural comparative studies.

Permission

The first step was to obtain the obligatory permission in order to use the original MAQ, constructed in 1980 by Brooks-Gunn and Ruble. The permission was granted and the authors sent us the original version of their questionnaire, along with handwritten notes concerning factor analysis.

Translation

The forwards-backward procedure was applied to translate the MAQ from English to Greek. The researcher and a second health professional translated the questionnaire in Greek (forward). A meeting followed, where the observed differences were discussed and a common version was agreed on. The translated MAQ was blindly back-translated to English by a teacher that lives and works in Greece, having English as his native language and by a bilingual Greek scientist. Afterwards, the two questionnaires were compared and the content of each item was discussed and determined. Furthermore, a pilot bilingual study was conducted to estimate the linguistic accuracy of our new questionnaire. Finally, the revised version of MAQ was evaluated by 3 academics in accordance to the indications of Flaherty et al. [6] and led to the final version of the Greek MAQ named “ΕΣΕΡ” (ESER).

Participants

The questionnaire was distributed to 600 Greek women of the reproductive age (18-45 years old), excluding pregnant and climacteric cases. The purpose and the duration of the study were fully explained to the participants. The voluntarily participation as well as the option to abandon the study at any time was also explained. The completion of the questionnaire was an anonymous procedure and the participants were assured of the discretion of the study and that their answers would remain confidential. The researcher was always present and available to answer any questions.

Selection

514 questionnaires were collected but only 301 were correctly answered so as to be proper for analysis.

Statistical analysis

A study of reliability was carried out, using Confirmatory Factor Analysis CFA and Exploratory Factor Analysis EFA. The Kolmogorov-Smirnov (K-S) test and probability-probability (P-P) plots were used to inspect the normal distribution of the data. Item analysis was applied to check the variability of the items, using a mean value of 33 questions, their standard deviations and skewness index.

CFA

CFA is a statistical modeling technique used to determine the Goodness of fit index –GFI, between a model already structured by another scientist and the sample data. In this study, CFA was used to confirm the original exploratory model, as derived from Brooks-Gunn and Ruble in 1980, and to examine if any modification and reconstruction are required for Greece.

CFA was conducted using the Analysis of Moment Structure (AMOS), version 7.0 programme [7]. Rejecting or accepting a model is based on two kinds of controls. Firstly, on global fit indices and secondly, on the magnitude of the variance, as it is explained by the resulting factors. The global fit indices that were used were: a. chi-square, to test the fit of the observed covariance matrix, obtained under the constraints of the model, b. RMSEA (Root Mean Square Error of Approximation), c. CFI (Comparative Fit Index). Indications of an acceptable fit are: chi square –degrees of freedom (df) ratio < 2.0 [8], RMSEA < 0.05 [8], CFI > 0.90 [9]. The sample size needed to apply CFA is not literally established in a clear way. Simulation studies suggest that stable factor modules can be found with samples as small as 100 [10]. MAQ, consisted of 33 items, so, our sample of 301 participants fits with the guidelines. CFA, also included: GFI (Goodness of fit Index) [11], AGFI (Adjusted Goodness of Fit Index), TLI (Tucker-Lewis Index) ([12]; [13]; [14]), RMR (Root Mean Square Residual), IFI (Incremental Fit Index) [15] and ECVI (Expected Cross Validation Index).

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EFA

When CFA fails to correspond to the new model with the theoretical original one, the researcher has to find a way to enhance the structure. This is accomplished by employing the Exploratory Factor Analysis (EFA). EFA with varimax rotation was performed to investigate the factor structure of the Greek MAQ. The factor structure that was chosen to test the size and variation ratio of eigenvalues was based on, a. the rule that significant factors should be related to eigenvalues > 1 , b. the assessment of the diagram of eigenvalues concerning the number of factors (screen plot test). CFA and EFA were applied to the same sample.

Reliability

In order to examine the reliability of the Greek questionnaire its internal consistency had to be estimated. Coefficient alpha (Cronbach's) was calculated using data from the first measurement of the Greek MAQ. The lowest acceptable value was agreed to be 0.70, which indicated adequate reliability for the scientific purpose.

V. EXPERIMENTAL RESULTS

Demographic and Descriptive Statistics

The responders were 19 to 46 years old. ($M = 28.74 \pm 7.09$). Their body weight was 41-106Kg ($M = 62.41 \pm 9.70$) and height 1.55 -1.98m ($M = 1.67 \pm 0.06$ m). Their BMI (Body Mass Index) was between 16.8 and 36.68 ($M = 23.30 \pm 3.24$ kg/m²). From the 301 participants 265 (86%) had a university education while 36 (14%) had a basic education (Table 1).

Table 1: Demographic and Descriptive Statistics

Age	Mean $\pm$ SD 28.74 $\pm$ 7.09 years	Width(19-46)	
Weight	Mean $\pm$ SD 62.41 $\pm$ 9.70 kg	Width (41-106)	
Height	Mean $\pm$ SD 1.67 $\pm$ 0.06 m	Width (1.55-1.98)	
Body Mass Index	Mean $\pm$ SD 22.30 $\pm$ 3.24	Width (16.08-36.68)	
		Frequency (N)	Percentages (%)
Educational Level	University	265	86%
	Basic	36	14%

Item Analysis

The statistical results of the 33 items of the Greek MAQ are shown in Table 2. Mean value varies from 2.49 for question 33 (q33) that concerns the existence of premenstrual tension/irritability just in a woman's head, to a 6.07 for q.16, which refers to a woman's ability to predict that her period is approaching because of breast tenderness, backache, cramps and other signs. Skewness values range between 1.36 and 0.898, which indicates that most items follow normal distribution (only 4 variables have Skewness < -1 and > 1).

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Table 2: Item Analysis

Questions	Mean	Standard Deviation	Skewness
1	3.62	1.72	0.283
2	2.81	1.66	0.890
3	4.46	1.89	-0.206
4	5.72	1.34	-1.262
5	4.84	1.57	-0.899
6	3.05	1.55	0.421
7	5.51	1.31	-1.121
8	3.40	1.75	0.301
9	5.37	1.32	-0.868
10	5.30	1.53	-0.981
11	3.07	1.81	0.708
12	3.03	1.67	0.659
13	3.13	1.76	0.359
14	3.14	1.74	0.543
15	2.70	1.61	0.626
16	6.07	1.11	-1.362
17	4.20	1.69	-0.018
18	4.56	1.47	-0.359
19	5.02	1.77	-0.622
20	4.52	1.87	-0.294
22	5.39	1.39	-0.996
22	5.36	1.61	-1.140
23	2.85	1.62	0.648
24	5.37	1.41	-0.819
25	3.95	2.02	0.010
26	5.07	1.47	-0.876
27	4.80	1.75	-0.749
28	2.78	1.55	0.624
29	4.60	1.68	-0.525
30	4.38	1.66	-0.417
31	3.16	1.90	0.606
32	4.31	1.50	-0.305
33	2.49	1.38	0.898

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3.2 CFA

CFA was performed and showed that the original model did not fit our data. The values of indices were $\chi^2 = 1136.9$ $df = 485$, $p < 0.0005$, RMSEA = 0.066, $\chi^2/df = 2.34$, GFI=0.755, AGFI=0.701, IFI=0.789, TLI=0.75, NFI=0.683, CFI=0.784. Except for RMSEA and ration χ^2/df that approach acceptable values (RMSEA <0.6, $\chi^2/df < 2$) the other indices do not meet the conditions for the structure to be accepted. Thus the five-factor model can be rejected for the Greek MAQ.

However, the Greek opinions showed better fit than the original (CFI = 0.784), compare to the CFI of the British model = 0.52 and that of the Indian people CFI = 0.21 in the study of Bramwell et al. [3] as well as the CFI of the one sample mentioned in the study of Firat et al. [5] , CFI = 0.776. The above results indicate that not only the factor model but also the data that were used should be corrected, which means that we should proceed to applying EFA in order to modify the original questionnaire and define a new structure.

3.3 Internal consistency (Original Model)

Although the CFA rejected the initial structure of the questionnaire, we tested the internal consistency of the 33 items which was found to be a total score of 0.711. Therefore, we conclude that there is no internal consistency with the existing structure of the original questionnaire (Table 3).

Table 3: Internal Consistency of original MAQ

Factors	Cronbach's alpha
F 1 : menstruation as a debilitating effect	-0.078
F 2 : menstruation as a bothersome effect	0.265
F 3: menstruation as a natural effect	0.778
F 4: anticipation and prediction of the onset of menstruation	-0.150
F 5: denial of any effect of menstruation	0.545
Total Cronbach's a:	0.711

3.4 EFA

The Bartlett Test of Sphericity was applied to find out whether the data was appropriate for factor analysis. Its value was 3447.32 ($p < 0.0005$). Sampling Adequacy was tested using the Kaiser-Meyer-Olkin measure, which was 0.852, indicating that the sample size was adequate for EFA [16]. The criteria that were calculated were: eigenvalue criterion, Tuckler and Lewis Reliability Coefficient (TLC), Akaike's Information Criterion (AIC) and Schwarz's Bayersan Criterion (SBC).

Our model satisfied the above-mentioned criteria with low values for AIC, SBC and TLC = 0.782 . TLC ranges between 0 and 1, with higher TLC value indicating better reliability. The 5- factor solution was adopted explaining 50% of total skewness with eigenvalues from 1.45 to 6.76 (Table 4).

Table 4: Eigenvalues and Variability

Factors	Eigenvalues	% Skewness	Total %
1	6.766	20.504	20.504
2	3.430	10.393	30.897
3	2.504	7.589	38.487
4	2.017	6.111	44.597
5	1.455	5.410	50.007

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6	1.003	3.045
7	0.939	2.900
8	0.919	2.805
9	0.909	2.737
10	0.888	2.692
11	0.818	2.480
12	0.763	2.313
13	0.739	2.239
14	0.721	2.185
15	0.709	2.150
16	0.676	2.048
17	0.654	1.982
18	0.577	1.748
19	0.559	1.694
20	0.533	1.615
22	0.499	1.513
22	0.477	1.445
23	0.459	1.391
24	0.438	1.327
25	0.425	1.289
26	0.407	1.234
27	0.379	1.149
28	0.346	1.050
29	0.341	1.035
30	0.297	.900
31	0.277	.839
32	0.265	.803
33	0.253	.766

None of the items were found to belong to more than one factor, because their factor loading was not greater than or equal to 0.40 (≥ 0.40). Although the sorting of factors is not the same, almost the same questions were grouped together to produce a factor. The classification of the items into subscales fits almost exactly the structure created by Brooks- Gunn and Ruble.. The produced factors were named in the same way as in the original American questionnaire.

Factor 1 (F1), includes the following items: Question 1 (q1), q2, (q7), (q8), (q13), (q14), (q18), (q19), (q24), (q29), and (q30), and measures a woman's distress caused by menstruation in her every-day life. F2 consists of questions q3, q15, q20, q25, and q31 and measures a woman's like or dislike of menstruation. There are no great differences between Greek and American MAQ for this factor. F3, describes menstruation as a natural event, evaluates the acceptance of menstruation as a whole, and includes Questions q9, q10, q18, q26. In this factor we meet the most changes related to the original questionnaire. Two items are inserted in F3 while they belonged in different factors. Nevertheless, these changes do not alter the meaning of the factor, which keeps its initial name. F4 measures the awareness and acknowledgement of the period's effects on a woman's life and

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includes questions q5, q11, q16, q17, q22, q27. One question is moved to this factor, without changing the context. Finally, F5 gauges women's opinions and thoughts on their behavior during the days of menstrual bleeding and consists of questions q6, q12, q23, q28, q32, q33. This factor loses an item, compared to the original MAQ (Table 5). Q9 that belonged to factors 2 and 3, in our model, is clearly registered in F3, q17 is transferred to factor 4 and, q18 appears in factor 3 rather than factor 1 that was found in the original MAQ (Table 5).

Table 5: Factor loadings for each factor

Factors	Items	Component				
		1	2	3	4	5
F1: Menstruation as a debilitating event	q2. I feel as fit during menstruation as I do during any other time of the month	0.746				
	q29. Menstruation can adversely affect my performance in sports	0.710				
	q1. A woman's performance in sports is not affected negatively by menstruation	0.704				
	q24. I don't allow the fact that I 'm menstruating to interfere with usual activities	0.678				
	q14. I realize that I cannot expect as much of myself during menstruation compared to the rest of the month	0.668				
	q30. Avoiding certain activities during menstruation is often very wise	0.585				
	q8. Women just have to accept the fact that they may not perform as well when they are menstruating	0.571				
	q19. I believe my menstrual period does not affect how well I do on intellectual tasks	0.559				
	q7. Women are more tired than usual when they are menstruating	0.476				
	q13. I expect extra consideration from my friends when I am menstruating	0.399				
F4: Anticipation and prediction of the onset of menstruation	q22. I am more easily upset during my premenstrual or menstrual periods than other times of the month		0.821			
	q11. My own moods are not influenced in any major way by the phase of my menstrual cycle		0.735			
	q27. I have learned to anticipate my menstrual period by the mood changes which precede it		0.667			
	q5. Most women show a weight gain just before or during menstruation		0.654			
	q17. A woman who is easily upset before or during her menstrual period should not be criticized by others		0.537			
	q16. I can tell my period is		0.449			

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	approaching because of breast tenderness, backache, cramps, or other physical signs					
F3: Menstruation as a natural event	q9. Menstruation allows a way for me to keep in touch with my body			0.740		
	q21. Menstruation is an obvious example of the rhythmicity which pervades all of life			0.723		
	q10. Menstruation is a reoccurring affirmation of womanhood			0.688		
	q26. Menstruation allows women to be more aware of their bodies			0.680		
	q4. The recurrent monthly flow of menstruation is an external indication of a woman's general good health			0.599		
	q18. The physiological effects of menstruation are normally no greater than other usual fluctuations in physical state			0.427		
F2: Menstruation as a bothersome event	q20. Men have real advantage in not having the monthly interruption of a menstrual period				0.705	
	q25. I hope it will be possible someday to get a menstrual period over within few minutes				0.693	
	q3. Menstruation is something I just have to put up with				0.647	
	q15. In some ways I enjoy my menstrual periods				0.559	
	q31. The only thing menstruation is good for is to let me know I'm not pregnant				0.511	
F5: Denial of any effect of menstruation	q33. Premenstrual tension/irritability is all in a woman's head					0.669
	q32. Most women make too much of the minor physiological effects of menstruation					0.658
	q28. Women who complain of menstrual distress are just using that as an excuse					0.648
	q12. I barely notice the minor physiological effects of my menstrual periods					0.585
	q23. A woman who attributes her irritability to her approaching menstrual period is neurotic					0.580
	q6. Cramps are bothersome only if one pays attention to them					0.426

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Internal Consistency of Greek MAQ

In Table 6, the values of coefficient Cronbach's α for the Greek version of MAQ are presented. The values are >0.7 better than the values of the original model, indicating that the items are interdependent, homogenous, with internal consistency. Values ranged between 0.706 for F5 and 0.885 for F1. Cronbach α for the sum of 33 questions was 0.711 which demonstrates internal consistency, though not at a high level. Nevertheless, the Greek MAQ is a questionnaire that draws inferences based on subscales. Thus, Cronbach's alpha values for F1, F2, F3, F4, and F5, show very good levels of internal consistency, which means that the questions are appropriate for Greek people (Table 6).

Table 6: Internal Consistency of Greek MAQ

Factors	Cronbach's alpha Index
F 1	0.885
F 2	0.739
F 3	0.754
F 4	0.710
F 5	0.706
Total Cronbach's α :	0.711

Descriptives of subscales

The highest mean value was found in F3 ($M = 5.23 \pm 0.95$) and the lowest in F4 (3.09 ± 0.98). There is good variability related to mean value (Standard deviation 0.7 – 1.3). Skewness was between -0.7 – 0.22, which indicates that variables are normally distributed (Table 7).

Table 7: Total Descriptives

	Mean	SD	Low	High
F 1	3.88	1.09	1.56	6.44
F 2	4.28	1.30	1.00	7.00
F 3	5.23	0.95	1.50	7.00
F 4	3.09	0.98	1.00	5.83
F 5	4.73	0.72	2.50	6.83

Intersubscale Correlations

Moderate negative and positive correlation was found among subscales with statistically significant result, due to the big sample (Table 8).

Table 8: Intersubscale Correlations

Subscales	F1	F2	F3	F4	F5
F1	---	0.333***	-0.072	-0.409***	0.259 **
F2	---	---	-0.340 ***	-0.122 *	0.211 **
F3	---	---	---	0.201 *	0.151 *
F4	---	---	---	---	-0.275 **
F5	---	---	---	---	---

*** $p < 0.0005$, ** $p < 0.005$, * $p < 0.05$

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VI. DISCUSSION

Meaning

According to our knowledge of the literature, this is the first study that examines the factor structure of MAQ for Greek women, using EFA. Thus, the questionnaire can be adjusted to Greek people taking into consideration the fact that till nowadays, there isn't any published study about this particular topic in Greece, neither about women's opinion towards menstrual bleeding.

Analysis of the results

When comparing mean values (Table 6), with the results of Brooks- Gunn and Ruble [2], it was noticed that there is a similarity for F1 and F2, but higher mean values were found for F3. In addition, F5 was found to concentrate higher values among Greek women. On the other hand, F4 was found to have lower prices for Greek females. These differences indicate the variety of the aspects between cultures, especially between American and Greek society. Women in Greece realized in an altered way the meaning of some questions, a fact that made these items fit better to a different factor. This completes the theory, already declared by other scientists about the complexity of the answers among different people and their culture.

Almost the same alterations are noticed for F1, F2 and F5, in the study of Chatuverdi and Chandra [4], compared with the original MAQ. The results of the study in Turkish people [5] differ enough from our results. The differences should be carefully examined, since the research has been conducted in a different time and the scale was adjusted in different populations. The fact that F3 was found with the highest mean value means that Greek women are in general positively oriented to this process that takes place inside their bodies and they consider it to be an integral piece of their body. This finding is important, if we take into account the fact that in most countries women's attitude towards menstrual bleeding is rather negative [18]. On the other hand, the lowest prices of F4, show that Greek women do not occupy themselves, or they are not able to realize and predict the beginning of menstruation.

The CFA that was applied indicated that the Greek attitudes about menstruation satisfy a model with acceptable goodness of fit indices. In spite of the fact that the original MAQ was rejected structurally, it seems that the classification to 5 subscales is stable. The Greek version of MAQ was created. Statistical analysis led to some differences, mainly owed to the movement of some items to a different factor. From this point on, our findings should be applied to independent samples of women in the Greek community so as to confirm the results of EFA.

Concerning the internal consistency, some factors were found to have a lower price than in the initial MAQ, where alpha indexes were between 0.95 -0.97. This fact does not affect the reliability of our study, seeing that it concerns people that belong to a different cultural group, the respective research was carried out many years earlier, and it was applied in a different structural model. Therefore, we conclude that our new model indicates a linear, latency construction with adequate reliability.

VII. CONCLUSION

Consequently, our findings endorse the fact that this specific instrument is reliable and satisfactory instrument, related to attitudes of women towards menstruation. Additionally, it seems that the appropriateness of the measure increases if the findings of each category are summed separately. This study asserts the already published thesis, that woman's beliefs about menstruation should be considered as a multidimensional event that varies from land to land and completes a course of studies about the intercultural examination of how women view menstruation, especially in countries like Greece where English is not the mother language.

We are in the 21st century, and menstruation should not be a taboo for the society. The great importance that women attach to issues related to their bodies, femininity and their reproductive role will help us understand the significance of the existence of a measure such as the Greek MAQ. For the first time health professionals in Greece will have the opportunity to approach physically and mentally, with quantitative methods, topics that concern women combined with conclusions about their attitudes towards menstruation. At the same time, this study provides the international literature with evidence of the intercultural variety of attitudes and contributes to the understanding of the complicated nature of women, leading to the amelioration of their lives. Finally, it motivates other scientists to address this interesting issue.

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